ABSTRACT

A screw feeder adapted for rapid changeover of the type of screws to be fed. The feeder has a collator section having a floor with slots to collate random screws into rows and an enclosure about the floor for retaining random screws on the floor. The collated screws are fed along the slots into slots in a dispensing section of the feeder where they are then moved in queues to an escapement to be picked off one by one for deposit into a receiver. The collator section floor is oscillated about an axis between a position where the floor slopes downward from a downstream end in the slot direction from an upstream end in the opposed slot direction to a position where the floor slots slope upward to the upstream end. The collator section enclosure has a gate closure at the upstream end of the floor and the slots on the floor extend completely to the upstream end so that, with the gate open and the collator section oscillated to tilt the slots downward toward the upstream end, the screws in the slots will slide to the upstream end and out of the feeder to empty it. A chute is provided below the upstream end to collect the screws falling from the feeder.

The screw feeder may have a collator section that collates and feeds screws along slots to the slots of a separate dispenser section for dispensing. For emptying the feeder for screw changeover, the dispensing section is raised so that the screws slide back to the collator section held at the lower position for screw removal. A flow regulator gate adjacent the dispenser section is openable on rotation downward of the collator section to clear screw jambs. The regulator gate also opens when the dispensing section is raised to clear the screws back to collator section for changeover. Detents are provided in the collator section slots at an intermediate location therealong to maintain the collated screws closer to dispensing section for ease of transfer thereto. The detents are selectively removable so that they will not interfere with emptying the feeder on changeover to new screws.